

ISO 9000 ACCEPTANCE AND THE MODERATING EFFECT OF THE IMPLEMENTATION STRATEGY: THE CASE OF THE FACULTY OF BUSINESS MANAGEMENT, UNIVERSITI TEKNOLOGI MARA, SHAH ALAM

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ABSTRACT

Academic institutions in the country are at present re-examining their business philosophy and trying to deliver quality education to remain attractive. Pressed by globalization, liberalization and accelerating competition, the education industry is facing up to these challenges by becoming more innovative in its transformation. Getting the ISO 9000 certification is quite a trendy phenomenon nowadays. But how do the academics react to this management system innovation? This paper tests a model of innovation acceptance (ISO 9000 certification) that conceptualizes interest, knowledge, involvement and perceived value as independent variables and implementation strategy as the moderator. One hundred and fifty structured questionnaires were distributed to the academic staff of the Faculty of Business Management where ISO initiatives were underway. The study shows that there is a significant correlation between perceived value with interest, knowledge, acceptance of innovation and implementation. Hierarchical multiple regression analysis indicates that the implementation strategy (participative strategy) enhances the relationship between interest and innovation acceptance. Interest can be cultivated, knowledge disseminated and involvement maximized through an implementation strategy that co-opts the staff from the inception of the change initiative.

Keywords: Innovation acceptance, interest, knowledge, involvement, perceived value, implementation strategy

INTRODUCTION

The education and educational institutions are experiencing unprecedented changes in institutional systems and delivery technologies, customer needs and moods, and also government expectations. Public universities in general and business schools in particular have long been criticised for being slow to change

(Gordon & Howell, 1959; Porter & McGibben, 1989). Business schools have been soundly rebuked for their lack of leadership in instituting changes they so religiously argue for the economy at large (Hazman, 2002). Stung by the growing disenchantment with the quality of higher education and the centrality of high quality education for the evolving k-economy, governments have sought to actively assess the quality of education provided. Despite many misgivings about greater market orientation, the universities are adjusting to the demands for more customer centredness. Universities have adopted a variety of approaches to serve the stakeholders better and to meet the challenges of globalisation. Although the information technology driven changes have come to dominate the educational landscape through virtual and e-learning possibilities, leadership and management systems still remain as principal challenges (Avdjieva & Wilson, 2002). In this context, the management or administrative systems innovation have a long history of changes (Damanpour, 1991, 1998). Innovative changes to leadership and management systems lies at the heart of the changes expected in the universities (Mok, 2005).

The organizational learning, total quality management (TQM) and ISO 9000 offer new approaches and methods of management that improves an organization's capability to deliver goods and services (Smith, 1994; Biazzo & Bernardi, 2003). Within this range of management approaches, the ISO 9000 standard which provides an internationally recognised basis for the development of a management system has been adopted by many universities in their quest to meet the competition in the new millennium. However, management systems involving new processes and procedures are much more challenging than incorporating new functionalities in products and services. These systems can only become functional and effective if the innovations are managed skillfully from inception to institutionalization. The human drama that unfolds and surrounds any change agenda in organizations is the most influential variable in the outcome of the innovation (Hammer & Champy, 2001; Kotter, 1998). In this regard, new management systems presumably aimed at improving management and organizational capabilities depend very much on the acceptance of the 'new technology' by the people. Poor 'enrolment' of the people always results in suboptimal outcomes (Senge, 1992).

This study examines the development and introduction of a new management system, i.e. ISO 9000 based quality management system, in a faculty in a Malaysian university. The quality management system – an innovation in management system, which involves new mindset and work approaches can only be implemented if the academics react to the new system in positive ways. The reaction and reception of the academics to innovation is the key ingredient to successful implementation of the new system (Hazman & Munirah, 2004). Change proponents and their models amply demonstrate that the human and

political factors are as important as the technical aspect of the change introduced (Tichy, 1983; Kotter, 1998).

LITERATURE REVIEW

Hazman (2000) reviewed the manner in which ISO 9000 was received in the Malaysian higher educational institutions. The academics remained skeptical about the need and value of the certifications. Ignorance of the standards among the academics was high and this coupled with the general anxiety about changes did not garner support for ISO 9000 certification. They were opposed to many superficial and market-based changes. However, he maintained that the certification can be of value if implemented adaptively and strategically with careful thought about the balance between control and flexibility in the management of teaching and learning activities. In a recent review of the approaches to ISO 9000 certifications by the educational institutions in Malaysia, Hazman and Munirah (2004) observed that certification is popular among the more recent private colleges and universities in order to broadcast to the regulators and to the public their commitment to quality in education. They cautioned as have others, that the subjugation of educator's interests to the manager's, which is often the result of certification exercises, will further alienate the academics (Newby, 1999; Srikanthan, n.d.).

In United Kingdom (UK), the newly promoted universities have been active in embracing the ISO 9000 standard in education (Neil & Michael, 1998; Shulter & Crawford, 1998). The academics have not been particularly impressed with the changes (Moreland, 1998). The arrival of ISO 9000 certification in the educational sector in UK was preceded by growing tension between the government regulators as well as the university managers. The reduction in public grants and the provision of grants based on performance indicators had already raised the ire of the academics who were now being pressured to be more transparent and accountable for their performance and become more market oriented in their work. The curricula, the teaching and learning, and the like must be friendly to the students, i.e. the customers. The increasing use of commercial concepts of customer satisfaction, specification, certification, etc. was not embraced with enthusiasm. Many TQM and related initiatives provided for greater management control of the teaching and learning processes, previously jealously guarded as the privileged preserve of the academics (Mathews, 1993; Moreland, 1998). Newton (2000) in examining the quality assurance initiatives in higher education saw a growing gap between the manager's need for accountability and the "frontline staff's" interests in improvements. Avdjieva and Wilson's (2002) study of quality in education in universities in UK, United States (US), Australia and New Zealand showed the conflict between the traditional

collegial culture with new managerial culture. They identified four different models of change within education along the dimensions of organizational learning and institutional quality. In the first and second group, the quality systems were seen as rituals whose purpose was to demonstrate to the internal and external reviewers the 'quality'. The academics grudgingly complied with the mindless rituals but also pursued improvements in the academic work. The quality systems installed to satisfy external assessors served to demoralize and alienate the frontline staff as their role was limited.

Involvement

Extensive empirical assessment of the ISO 9000 certification has produced mixed results (Jasni & Hazman, 2003; Casadesus & Karapetrovic, 2005, 2006). The benefits have been more internal than external. The internal benefits are better process understanding, greater process clarity, cost saving, time saving and productivity (Magh, 2006). These benefits are postulated to be higher if there is greater interest in, and commitment to the certification decision and process (Singels, Ruel, & Water, 2001). Wider participation allows for the processes to be actively defined and clarified including the interactions between the processes (Biazzo & Bernardi, 2003: p. 165). The kinks and knots in the system can be ironed out through the process of gaining certification.

Most evaluative studies of ISO 9000 certification have examined the business outcomes of certification. Only a few studies have looked at the dynamics of the certification, i.e. involvement of the employees (Jasni & Hazman, 2002; Mike, 2004). Cheng and Tummala (1998) looked at the level of participation of the employees in the certification exercise. They argued and also adduced empirical evidence that wider participation generated positive evaluations of the outcome or value of certification. This study supports the general axiom that involvement and participation of the employees help create a better understanding of the motivation for certification, the standard and consequently, results in less resistance. Jasni and Hazman (2003) posited that employee involvement in the development of the quality system and the documentation creates commitment towards the certification. Additionally, employee inputs ensure that the documented procedures are not just elegant but practical and productive. It reduces the tendency toward a mimetic and/or a coercive approach to implementing ISO 9000 both of which are not the most fruitful ways of benefiting from ISO 9000 in the long term (Boiral, 2003). Newton (2000), for instance discovered that the frontline staff who were not quite involved in the policy making, have powers to decode the policy. Extending Lipsky's (1980) work on street level bureaucrats to the frontline staff on educational institutions, Newton (2000) observed that academics can and will define and reconstruct

policies including quality policies in the manner fitting their concepts and priorities of quality despite the edicts emanating from the managers.

Participation takes on a special significance in education as in other pure services sector. The role of employees, their emotions, their extra organizational behaviours, has very direct and strong impact on the bottom line of the organisations (Heskett et al., 1994). In pure services, the employee morale and emotions leave immediate and sometimes indelible mark on the customer experience. How employees' sentiments about ISO 9000 especially if they are negative, affect the quality certification has been under-researched. Moreland (1998) in his study of three new universities in UK, observed that academics were not widely involved in the implementation. Academic managers were reluctant to involve all the staff and also their unions. Limited participation was considered necessary to avoid the distraction of negotiation and conflict resolution. But staff involvement in quality initiative has been underscored by all the quality gurus from Deming to Crosby as key to TQM which ISO 9000 has somewhat addressed in the 2000 issue of the standard (Hazman, 2005).

Knowledge and Perception of the Standard

Despite the growing popularity of ISO 9000 as an international quality standard, there is still in many quarters a profound lack of knowledge of the standard (Clark & Moreland, 1997; Singels et al., 2001; Hazman et al., 2003). Except for those who have substantial training in the standard, there are many misconceptions about the standard, the purpose and its limitations. The misconceptions are most obvious in the academe (Shulter & Crawford, 1998). Hazman (2000) in his review of ISO 9000 in higher educational institutions in Malaysia described the many perceptions of the academics within the universities as they started to get certification. There was a stupendous lack of knowledge of the standard which gave rise to anxieties and a mimetic approach to certification which forced the faculties into an inflexible and bureaucratic management system.

Although ISO 9000 is gaining momentum in all industries including the educational sector, the knowledge of the standard and its elements is still low (Shulter & Crawford, 1998). There are many misconceptions about what the standard is and what needs to be done to secure certification. It is because of this poor and distorted state of knowledge of the standard, the consultants are doing brisk business assisting clients to develop quality systems that meet the requirements. The business press, the consultants and the rather short generic standard have engendered many half truths. Many studies of ISO 9000 certification have been unclear about the value of the certification. The benefits seem to be more internal than external (Jasni & Hazman, 2002). Academics have

not generally been enthusiastic supporters of ISO 9000 certification as it brought in unconventional and factory style audit into education. Given the management system and culture in practice in Malaysia, the academics often do not articulate their sentiments preferring to remain silent and uninterested in the initiative. The way in which the standard was implemented in the educational setting did not help inspire confidence in the value of the standard (Avdjieva & Wilson, 2002). The standard calls for the processes of teaching and learning be agreed, outlined, documented, maintained and improved. The otherwise translucent world of the academic was under threat or at least that was the perception among many. The management needs for greater control of the core processes came into conflict with the autonomy that academics enjoyed. The pre-existing conflict and tension between the management and the academics did not create the environment ripe for learning and knowledge. The standard and its implementation provided the occasion and the platform to continue the conflict (Newton, 2000). The bureaucratic and sometimes, an inflexible approach to the management of teaching and learning, only served to bolster the academic's resistance (Avdjieva & Wilson, 2002: p. 382). The experiential knowledge of the standard reinforced the pre-existing belief that the standard is not beneficial for the effective learning. As the knowledge became fortified by personal and direct experience, the tensions mounted between academics and their managers.

RESEARCH FRAMEWORK

From the extant literature on ISO 9000 related changes, a conceptual framework is posited as the basis of this study. Interest, involvement, knowledge and perceived value are posited as influencing the acceptance of managerial innovation (ISO 9000 based quality management system) moderated by the implementation strategy. The following explanation outlines the relationships posited in the framework.

Interest

According to Hazman and Munirah (2004), interest (in ISO 9000) refers to an individual's positive affective disposition towards the standard. This construct captures an individual's general approach to addressing new ideas and initiatives in the workplace. Individuals evincing interest tend to learn faster and also invite more roles in the certification. Hazman (2000) reviewed the manner in which ISO 9000 has been received in the Malaysian higher educational institutions. The academics remained skeptical about the need and value of the certifications for universities. Misconceptions of the standard among the academics are high and this coupled with the general anxiety about changes did not generate interest in ISO 9000. On the contrary, they were opposed to many superficial and market

driven managerial changes. They cautioned that the subjugation of educator's interests to the manager's that is often the result of quality certification exercises will further demoralise the academics (Newby, 1999; Srikanthan, n.d.).

Involvement

The level of involvement in ISO 9000 implementation is defined as the extent of participation of the employees in units, teams or groups responsible for the implementation of some aspects of ISO 9000. The higher the level of involvement of the staff in the implementation of ISO 9000, the greater is the sense of ownership of the project (Cheng & Tummala, 1998). Similarly, the more influence the academics exercise, that is the extent to which the academics are able to affect decisions pertaining to ISO 9000 implementation, the more ownership they are likely to display and therefore, ameliorate the ill-effects of ISO 9000 or become less inclined to admit to any negative outcomes. Hence, a more positive perception of the ISO 9000 is expected and vice versa.

Knowledge of the Standard

Knowledge (of ISO 9000) is the extent to which the individual knows the explicit aspects of the standard, its requirements and the processes of certification. The knowledge forms the cognitive basis of the more affective manifestations. Hazman (2000) noted that there is dire lack of knowledge of the standard among academics and this is a major source of their reluctance or resistance and anxieties (Shulter & Crawford, 1998).

Perceived Value

Perceive value (of ISO 9000) is an overall cognitive assessment of the utility or value of ISO 9000 certification in education. The cognitive predisposition of individuals toward new systems and technologies has a strong bearing on their readiness to adopt and consequently, on the success of new systems. In diffusion studies, this cognitive predisposition has been identified in many different ways. For example, Au and Enderwick (2000) labeled it as adoption experiences and Parasuraman (2000) called it [technology] readiness. People, through direct and vicarious experiences, form opinions of new systems including ISO 9000. This strongly influences the absorptive capacity of an organisation with respect to new systems and technology (Cohen & Levinthal, 1990; Naik & Chakravarty, 1992; Lefebvre, Lefebvre, & Roy, 1995). The more positive the perception of ISO 9000 by the academics, the more ready they will be to accept and implement the new system.

Implementation Strategy

Implementation strategy refers to the choices managers make about the degree to which the decisions pertaining to certification are shared between them and their staff. A more participatory decision making ensures more communication, information, more influence and more understanding of need for certification. This can be contrasted with a more directive approach to decision making. Management literature in general and change management literature in particular calls for a systematic, planned and fully participatory approach to implementation of any change initiative (Tichy, 1983; Dolley, 1998; Kotter, 1998). Leadership theories and management styles greatly favor approaches that are humanistic and democratic. Although contingency theories of management and leadership have suggested the validity of all approaches, provided the key contingencies are present, the tacit preference for the participatory leadership is apparent. Particularly within the academia, which deals with the quintessential knowledge workers – the academics, a collegial and consultative approach to decision making and implementation is most preferred though not always present. The reaction to change, while heavily depended on the technical merit of the change, the political and cultural elements are as important to the overall reaction of people to the change (Tichy, 1983; Dooley & Flor, 1998). The benefits of ISO 9000 based changes, according to Biazzo and Bernardi (2003), are based on the implementation strategies adopted. Askey and Dale (1994) also observed that the type of strategies adopted in the implementation of TQM and ISO 9000 influenced the quality of the change in terms of the acceptance by the employees. Similar observations of this management altruism have been made by Curkovic and Pagell (1999), McTeer and Dale (1995), and Meegan and Taylor (1997). Implementation strategy is therefore an important mediator of the extent of acceptance of ISO 9000 based management innovation.

With these constructs, the underlying proposition of this research is that the faculty's staff's acceptance of some form of innovation (ISO 9000 – new way of managing things) is influenced by their interest in the subject matter itself, involvement in the certification exercise, knowledge of the standard and its requirements and perceived value of the certification. These relationships are in turn moderated by the implementation strategy undertaken by the faculty. The research framework is depicted in the schematic diagram as shown in Figure 1.

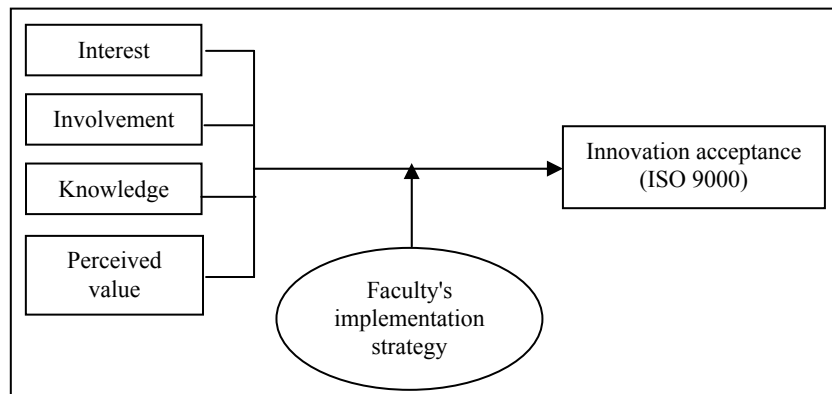


Figure 1. The research framework

RESEARCH METHODOLOGY

A cross sectional survey pre-test and post-test design was used. Data was collected using a structured questionnaire which was administered to 150 staff of the Faculty of Business Management, Universiti Teknologi MARA (UiTM), Shah Alam. Ninety-seven responded and all were deemed usable giving a response rate of 65%. The response rate is high considering that the staff had to be identified to enable matching of the pre-test and post-test questionnaires. However, this study only reports the pre-test stage. The four independent, one dependent and one moderating variable was measured via the use of a multi-item Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. Prior to factor analysis, six items were used to obtain information on the level of interest, 5 on involvement, 6 on knowledge, 8 on perception of value, 5 on innovation (ISO 9000 exercise) and 9 items on the implementation strategy.

Factor analysis produced five major factors while the rest were individually scattered, deemed unreliable and therefore dropped. Only factors with loading greater than 0.5 were accepted for further analysis. Kaiser-Meyer Olkin Measure of Sampling Adequacy indicates 0.71 and Bartlett's Test of Sphericity is at 2052.229, df = 741 and p<0.000. Table 1 illustrates the internal consistency coefficients (Cronbach alpha) for each of the variables and they all met the minimum level of 0.6 (Hair et al., 1998: p. 118) for exploratory studies.

TABLE 1
RELIABILITY ANALYSIS

Dimensions	Items	Items deleted	Cronbach Alpha
Perception of value	5	1	0.90
Interest	4	–	0.91
Knowledge	4	–	0.78
Involvement	3	–	0.82
Implementation strategy	7	–	0.86
Innovation acceptance	4	–	0.60

Findings and Analysis

The respondents comprised mainly of female lecturers (72.2%) and this is representative of the faculty as female staff is in the majority. Thirty-three percent of the respondents are between the ages of 41–45 years, and have teaching experience as an academic staff of the faculty for as short as five years and below and as long as 16–20 years. About 59.8% of the sample staff is basically lecturers, whilst 36.1% are Associate Professors. Twenty-two percent of the academic staff is from the Economics Department, while most of the remaining respondents come from Marketing, Management and Finance Departments. At present, 55.3% of the faculty's academic staff is not holding any administrative position.

Correlations among Variables

Table 2 illustrates the correlations among variables for this study. The correlation between the variables shown in Table 2 shows that interest is correlated significantly with perception of value ($r = 0.504$, $p < 0.01$) and involvement ($r = 0.269$, $p < 0.01$) but not with knowledge positing that interest of the faculty's academic staff is attached to the perception that the ISO 9000 exercise would benefit them in terms of professional and personal growth.

TABLE 2
CORRELATIONS AMONG VARIABLES

Variables	Mean	Std. Dev.	Correlation						
			1	2	3	4	5	6	
1. Perception of value	5.18	1.22	–						
2. Interest	5.42	1.22	0.504**	–					
3. Knowledge	3.49	1.45	0.115	0.104	–				
4. Involvement	3.43	1.83	0.193	0.269**	0.531**	–			
5. Implementation strategy	4.57	0.98	0.502**	0.389**	0.155	0.200*	–		
6. Innovation acceptance	5.43	0.85	0.201*	0.266**	–0.044	0.034	0.046	–	

* Correlation is significant at 0.05 level (2-tailed).

** Correlation is significant at 0.01 level (2-tailed).

Consequently, interest could have been developed if academicians were involved in the exercise right from the inception of the idea because academicians generally will not get themselves involved voluntarily in something they have no knowledge of. This is shown in the correlation between involvement and knowledge ($r = 0.531, p < 0.01$). Unless the approach to the whole exercise had been carefully formulated and executed, staff resistance will only inhibit the success of ISO 9000 certification. Evidently, there is some lack of knowledge (mean = 3.49) of the standard among academicians and this is presumably a major source of their reluctance or resistance to provide or support greater involvement in the exercise (mean = 3.43). The positive and significant correlations between innovation acceptance and interest ($r = 0.266, p < 0.01$) and perception of value ($r = 0.201, p < 0.05$) also supports the proposition that without substantial interest and perception of value of ISO 9000, the success of the managerial innovation will not be attainable.

Relationship between Variables

Regression analysis was carried out with all the independent variables and innovation and the summary of findings is presented in Table 3. In general, the model portrayed that all four independent variables were able to explain 10.5% variance in innovation acceptance (ISO 9000 based quality management system), which is significant at the 0.05 level (Sig. F = 0.05), also depicting that interest influences the acceptance of ISO 9000 innovation. Although the variance explained is low (10.5%), it is not insubstantial considering that innovation acceptance is influenced by a vast array of factors.

The regression result confirms the basic premise of this study – academics must be motivated to engage in the adoption of a new system. Interest, as indicated by

the regression analysis, goes towards explaining their acceptance of the new system. Interest can be argued to be a precursor to knowledge and involvement.

TABLE 3
REGRESSION ANALYSIS OF INTEREST, KNOWLEDGE, INVOLVEMENT,
AND PERCEIVED VALUE WITH INNOVATION

Constructs (1-4)	R	R ²	Std. error estimate	Sig. F	Durbin Watson
		0.323	0.105	0.8245	0.05
Unstandardized coefficient		Std. coeff. beta		t	Sig.
	Beta	Std. error			
Perceived value	0.043	0.083	0.062	0.51	0.612
Interest	0.188	0.084	0.274	2.244	0.027
Knowledge	-0.012	0.072	-0.020	-0.172	0.864
Involvement	0.024	0.058	0.050	0.410	0.683

Dependent variable: Innovation (ISO 9000 exercise)

The Influence of Implementation Strategy as a Moderator

The moderating variable, implementation strategy was multiplied with all the independent variables to create four interaction variables for the purpose of determining implementation strategy as a moderating variable that will influence the relationship between the independent variables and innovation. Hierarchical regression was employed and the findings are shown in Table 4. It shows that the R² change is 12% and the change in F-value is significant at $\alpha = 0.05$ level ($\Delta F = 0.02$).

TABLE 4
REGRESSION ANALYSIS WITH IMPLEMENTATION STRATEGY AS
A MODERATOR ON THE RELATIONSHIP BETWEEN THE
INDEPENDENT CONSTRUCTS AND INNOVATION

Model	R	R ²	R ² change	Std. error est.	Sig. F Δ	Durbin Watson
1	0.323	0.105	0.105	0.8245	0.05	
2	0.336	0.113	0.008	0.8255	0.38	
3	0.478	0.229	0.116	0.7887	0.02	2.0
Model 3	β	Std E	β	t	Sig.	
INTEREST	-0.79	0.428	-1.15	-1.836	0.07	
IXTINTER	0.237	0.099	2.422	2.400	0.019	

Dependent variable: Innovation (ISO 9000 exercise)

It is evident that implementation strategy enhances the influence between interest and innovation. At $\alpha = 0.05$, the effect of interaction between interest and implementation strategy is significant with a regression coefficient of 0.237. The hierarchical regression results show that the implementation strategy is a key instrument in generating interest in the certification exercise. More role and influence in the decision making towards the new system is likely to engender more interest.

CONCLUSION

The growing managerialism in education, i.e. measurement, accountability, control of resources etc. is already discussed, discoursed and resisted by academics as counterproductive (Avdjieva & Wilson, 2002; Mok, 2005). The success of this new initiative depends on the institutionalization of the new management system. Low interest and knowledge and also directive implementation strategy (suggesting low influence) will create more resistance and delay, if not, derail any planned change. This study provides further evidence that interest, one of the four factors posited as influencing the acceptance of innovation, has a significant impact on acceptance but is moderated by the implementation strategy. The manner in which managers, especially academic managers, choose to proceed with the innovation has an important bearing on the how much interest can be generated among the academics. Interest, it can be argued, is a precursor to knowledge and involvement, both of which are related to acceptance of innovation.

To the change managers, swift and undistracted change plans may appear more effective and efficient. Especially among knowledge workers such an approach is short-sighted and eventually dysfunctional. With the universities facing many and fundamental change challenges, developing interest among the staff through adequate knowledge and involvement aided by a participative implementation strategy will increase the chances of change success. Unilateralism and directive strategies of change only provide a semblance of quick changes. In the academia, these strategies are recipes for estrangement and chasm between academic managers and academics.

The study provides some evidence of the interrelationship between interest, involvement, knowledge, perceived value, and acceptance of innovation. It is incumbent upon sponsors of ISO 9000 certification to develop more knowledge, create positive perceived value and interest in the initiative in order to enjoy smooth implementation. The temptation of quick implementation must be resisted for the change to produce results.

The findings of this study are generalizable with some risks. The study focused on one faculty and as such sufficient institutional and cultural heterogeneity was not available to test the model in multiple settings. But the design enabled the model to be tested without the confounding influence of heterogeneous settings. Further refinement of the measures will raise the reliability levels and accentuate the correlations and regression results.

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